

April 2009 Climate Summary for Southwest Lower Michigan

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Overview

Southwest Lower Michigan experienced a very wet April. The three official observation sites at Grand Rapids, Muskegon and Lansing all reported above normal rainfall for the month. It was the wettest April ever recorded in Lansing, breaking the previous record of 6.4 inches set in April of 1880. It ranked as the seventh wettest month on record at Grand Rapids and Muskegon. The combination of all the rain and saturated ground resulted in flooding during the last week of the month, when numerous flood warnings and advisories were issued.

The month started off with above normal temperatures. However, a very cool airmass moved in on the 4th and 5th. Temperatures continued to average below normal through the second week of April. One of the coldest days of the month was the 7th, when temperatures averaged about ten degrees below normal.

A strong late-season winter storm brought significant snow to far Southern Lower Michigan on the 5th and 6th. The heaviest snow fell from just southeast of Kalamazoo (near Vicksburg) east northeast to Battle Creek, Marshall, Eaton Rapids and Jackson, where approximately five to seven inches of snow was reported. North of this area, snowfall amounts diminished quickly. No snow was reported in Grand Rapids.

The snow was heavy enough to create treacherous road conditions from Vicksburg east northeast to Eaton Rapids and Jackson. Numerous accidents were reported across Eaton, Jackson and Ingham counties. One fatal accident was reported in Eaton County. Heavy wet snow and strong winds resulted in downed trees, branches and power lines from Vicksburg east northeast to Jackson.

A brief moderating trend of temperatures occurred from the 15th through the 19th, when temperatures averaged about five to ten degrees above normal. This was followed by a brief period of below normal temperatures from the 20th through the 23rd. A rapid warm up occurred on the 24th after a warm front moved north across the area. Temperatures on the 24th averaged fifteen to twenty five degrees above normal. Temperatures continued to average above normal from the 25th through the 28th, and again on the 30th.

A wildfire occurred on Thursday April 16th in northern Kent County, in Nelson Township between Sand Lake and Cedar Springs, consuming a house and an unknown number of vehicles. The fire resulted from warm and dry conditions during the middle portion of the month, resulting in a very high to extreme fire danger.

Areas of moderate to heavy rain and some strong to severe thunderstorms developed on the 25th ahead of a cold front. In Grand Rapids, 1.40 inches of rain was recorded on the 25th, breaking the previous record of 1.02 inches set on April 25th, 1950. Some locations from Allegan and Holland east to Comstock Park and Alma reported three to four inches of rain from the 25th through the 26th. This resulted in some flooding of urban areas as well as streams and rivers.

Several thunderstorms developed on the 25th, causing many reports of wind damage throughout Calhoun County, including the cities of Albion and Marshall. In Jackson County, a 61 mph thunderstorm wind gust was

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measured at the airport in the city of Jackson, and there were reports of wind damage to trees elsewhere in the county.

Additional moderate to heavy rain fell on the 27th and 28th, exacerbating ongoing flooding issues due to already saturated ground conditions. Additional rainfall also moved in on the 30th as river flooding issues continued.

TABLE 1. Reported temperature, precipitation and snowfall amounts for April 2009 at selected climate stations in Southwest Lower Michigan. Normals are computed from 30-year averages from 1971-2000.

Location		Temperature (degrees F)	Precipitation (inches)	Snowfall (inches)
Grand Rapids	<i>Reported</i>	47.5	5.56	Trace
	<i>Normal</i>	46.3	3.48	2.8
	<i>Departure</i>	+1.2	+2.08	-2.8
Lansing	<i>Reported</i>	46.7	6.49	5.0
	<i>Normal</i>	45.5	3.09	2.5
	<i>Departure</i>	+1.2	+3.40	+2.5
Muskegon	<i>Reported</i>	46.3	4.80	Trace
	<i>Normal</i>	44.9	2.91	3.1
	<i>Departure</i>	+1.4	+1.89	-3.1

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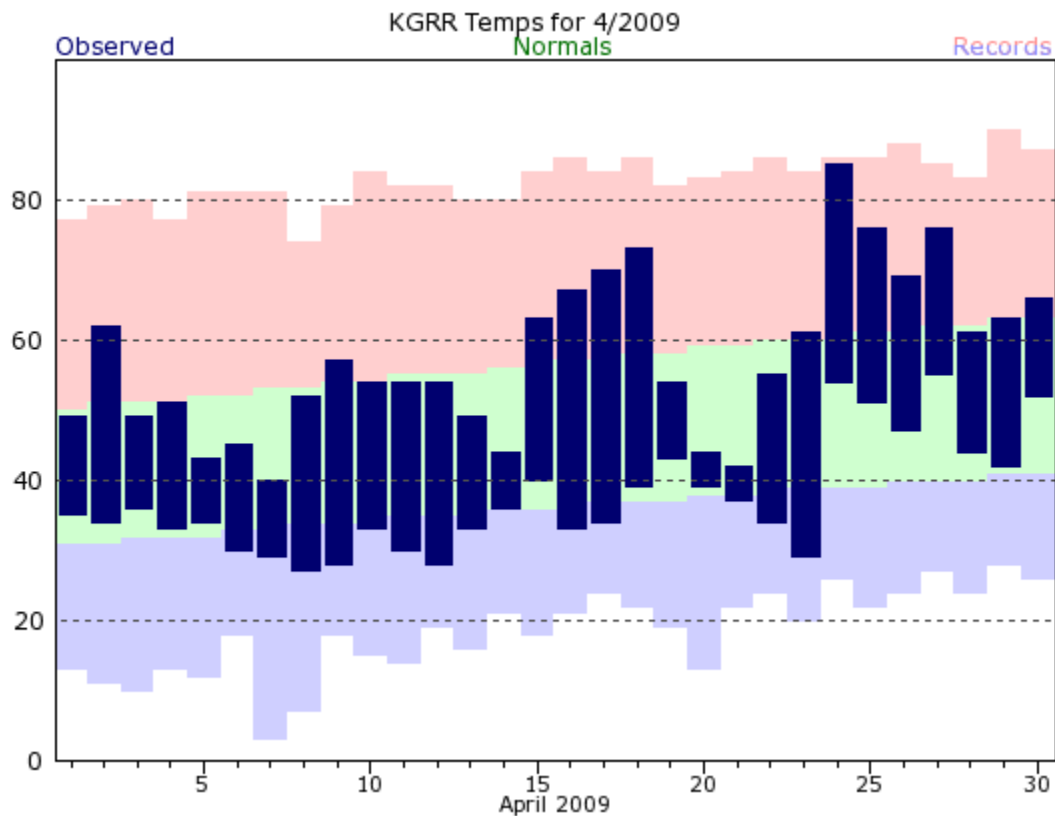


FIG. 1. Observed temperatures at the Grand Rapids International Airport. Dark blue bars are the temperature range for each day. The green strip indicates the normal range of temperatures. Record high and low temperatures are indicated at the top of the pink area and the bottom of the blue area, respectively. Normals computed as in Table 1.

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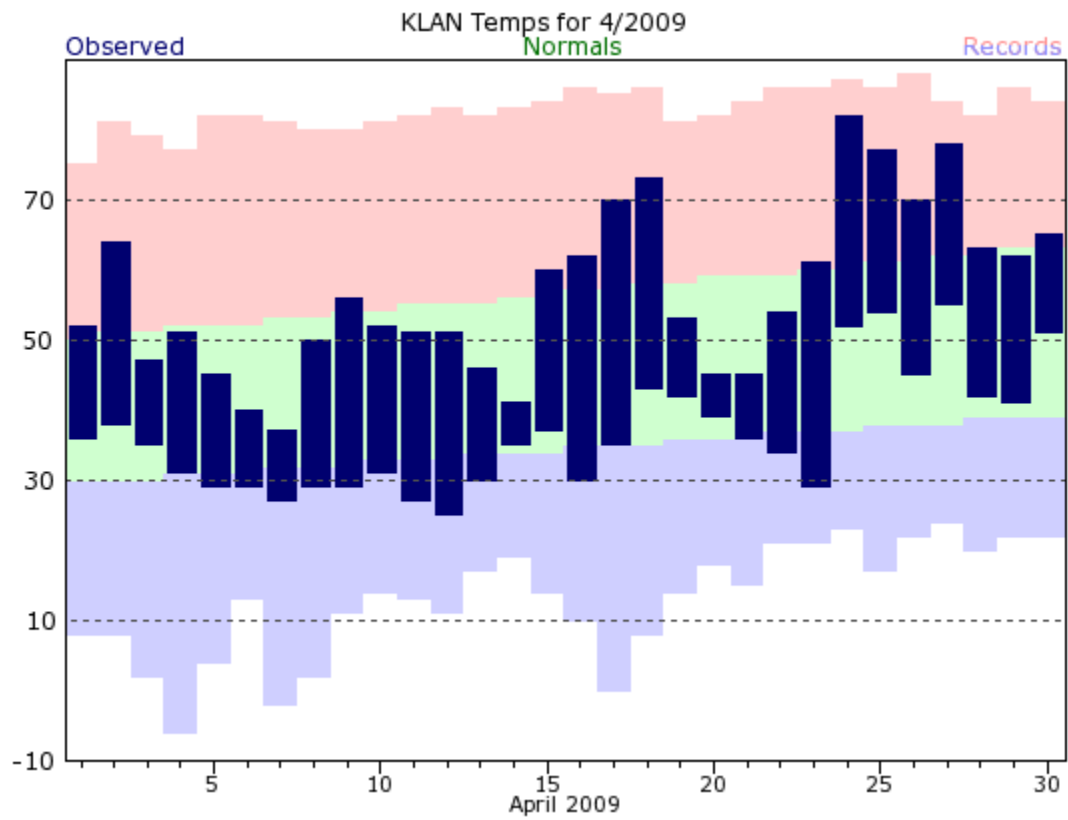


FIG. 2. As in Fig. 1, except for the Lansing airport.

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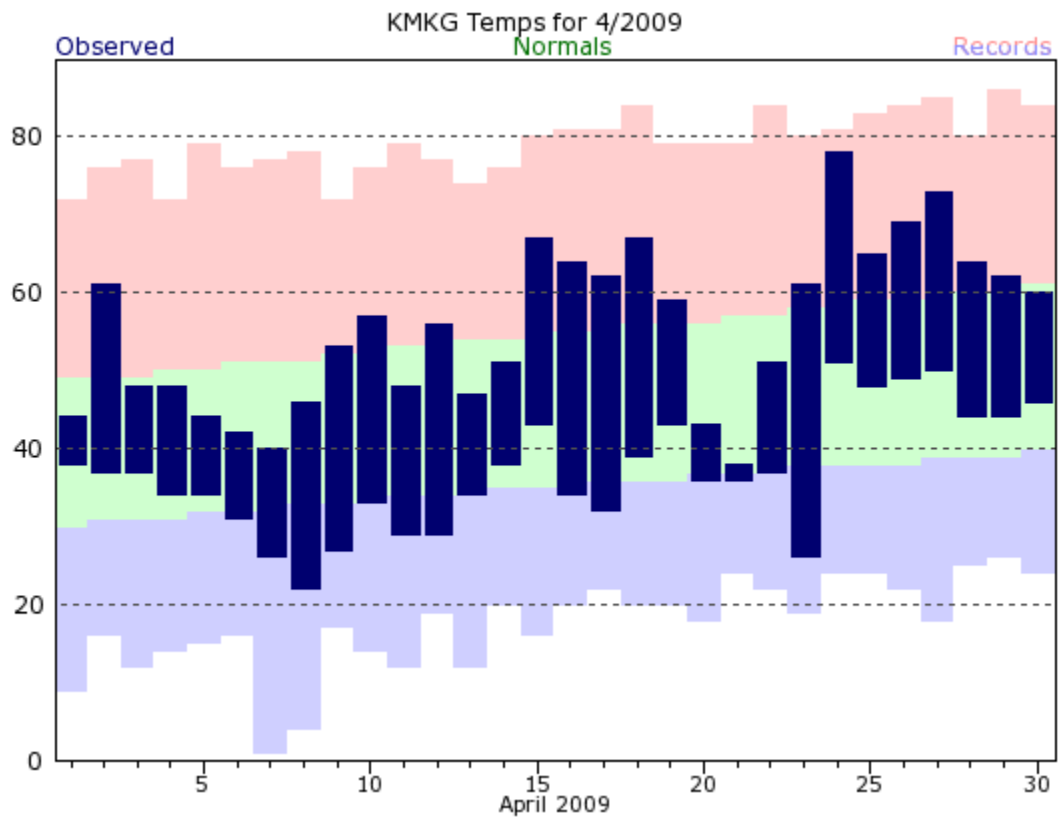
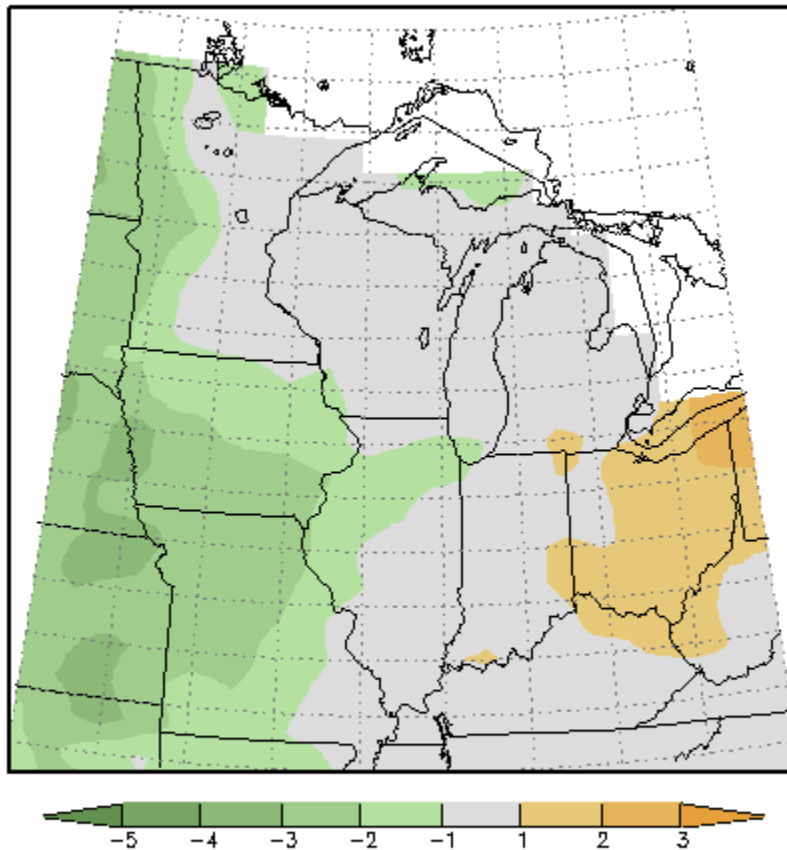


FIG. 3. As in Fig. 1, except for the Muskegon airport.

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Average Temperature Departure from Mean in Degrees F
April 1, 2009 to April 30, 2009



NOAA Midwestern Regional Climate Center
Illinois State Water Survey
Champaign, Illinois

FIG. 4. Average temperature departure (degrees F) for April of 2009.

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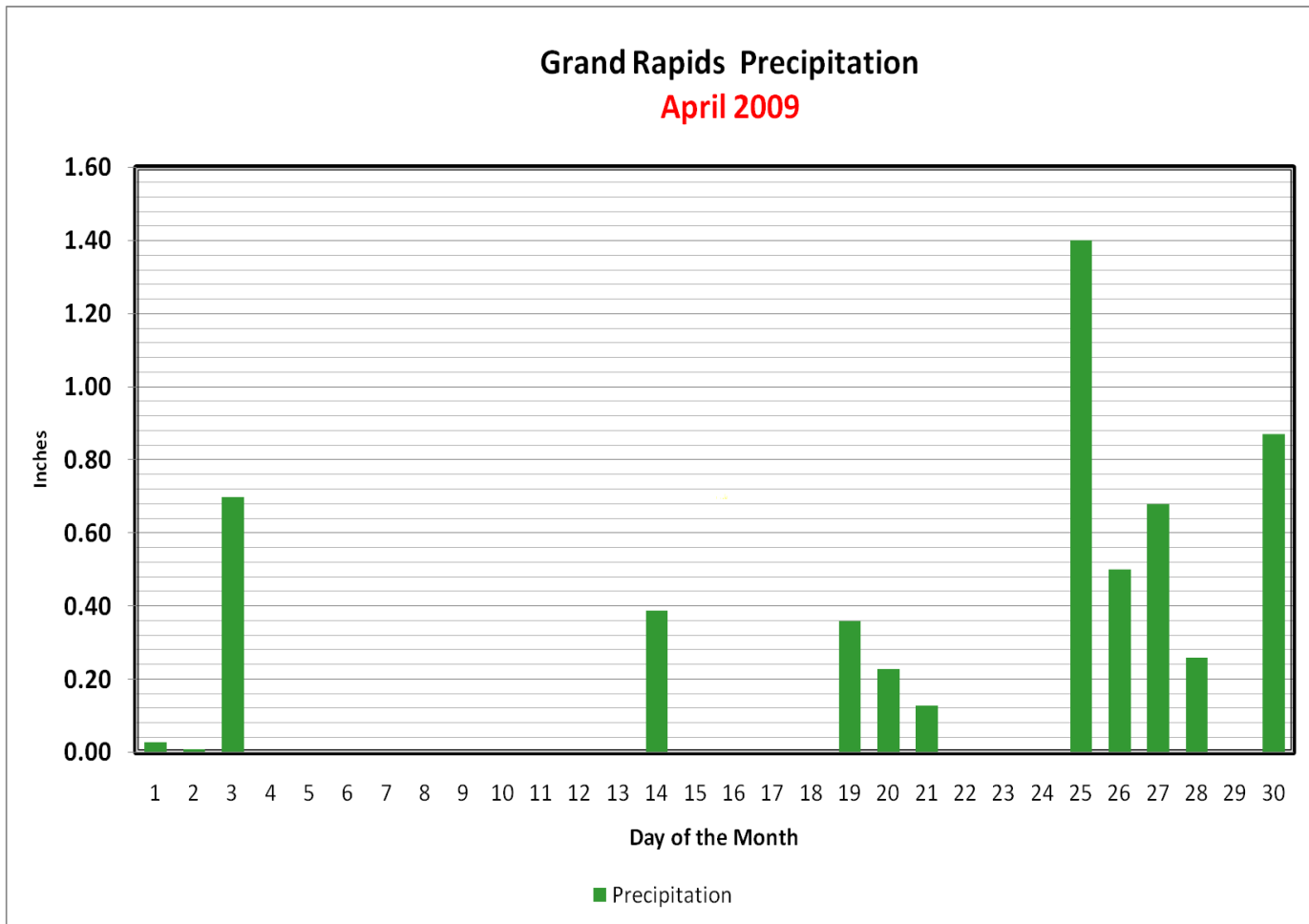


FIG. 5. Daily precipitation in inches for April of 2009 at the Grand Rapids International Airport.

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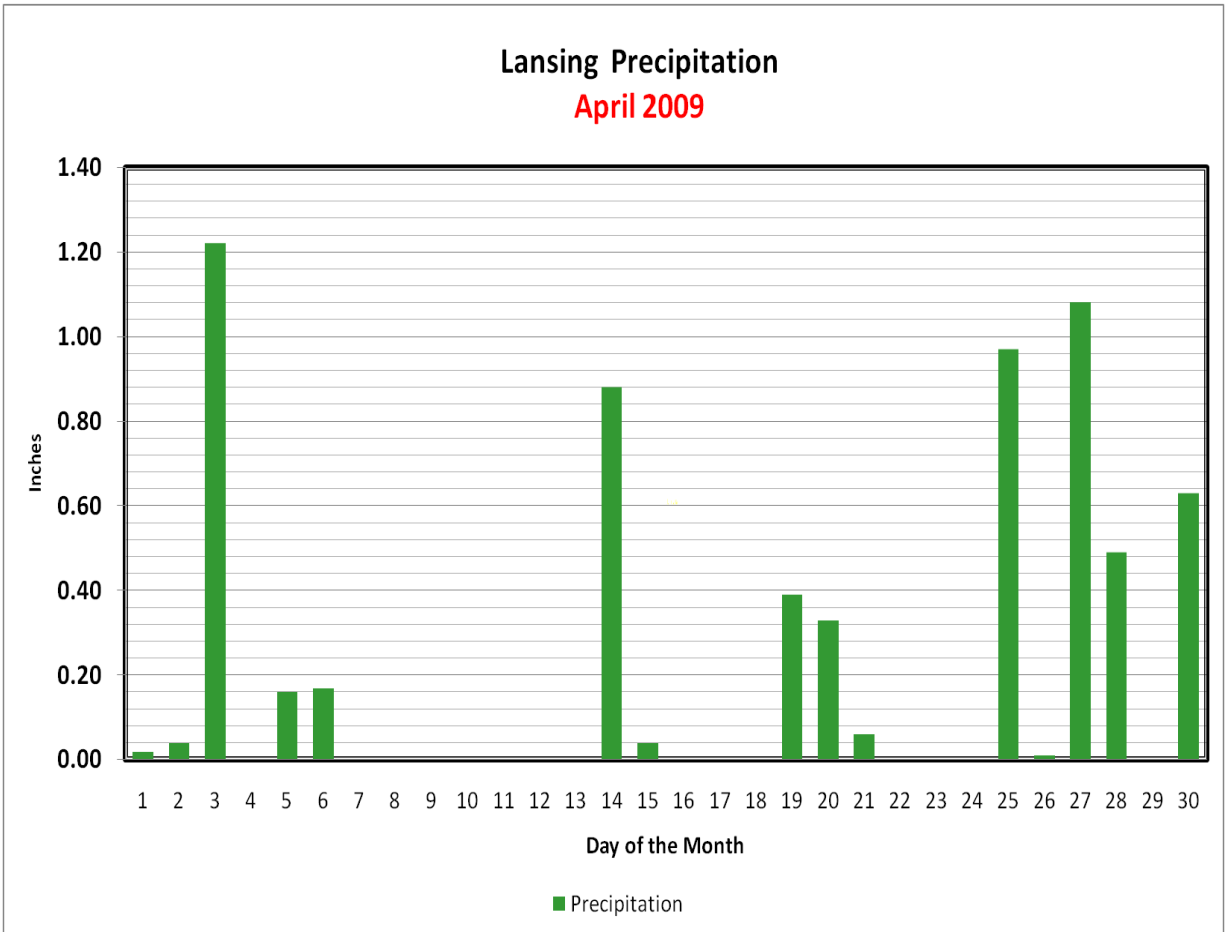


FIG.6. As in Fig. 5, except for the Lansing Capital City Airport.

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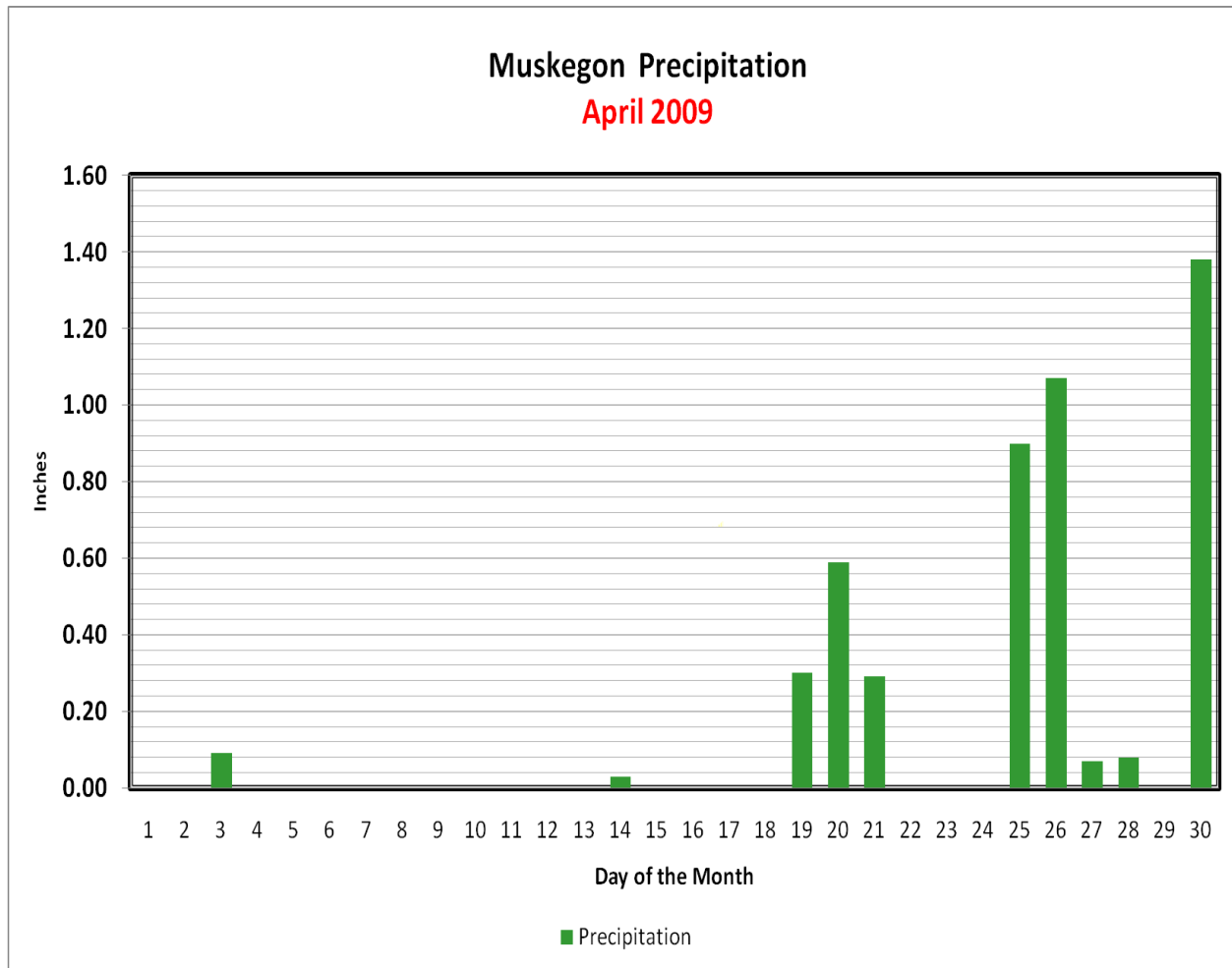
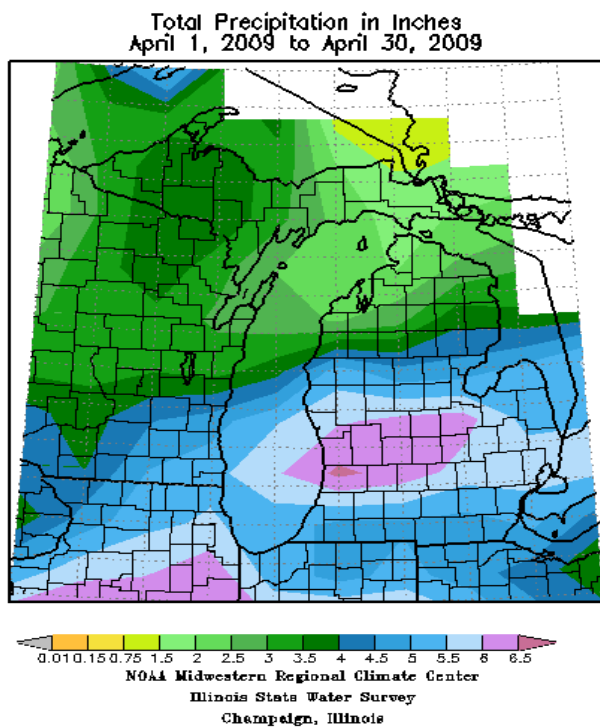
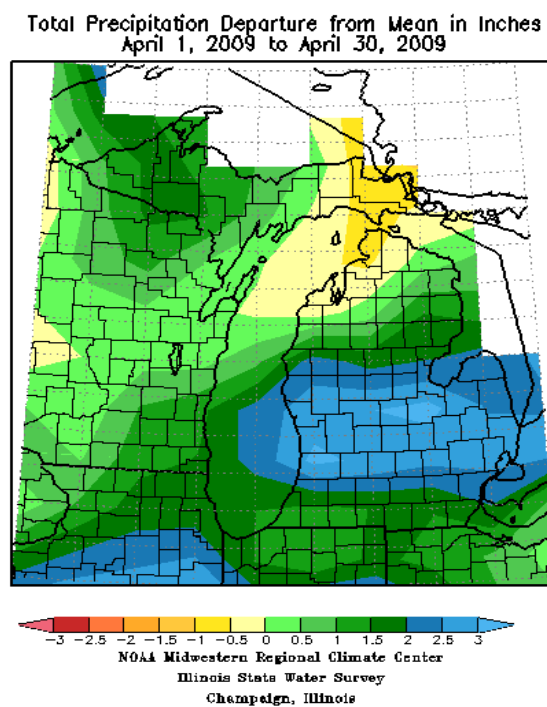


FIG. 7. As in Fig. 5, except for the Muskegon County Airport.

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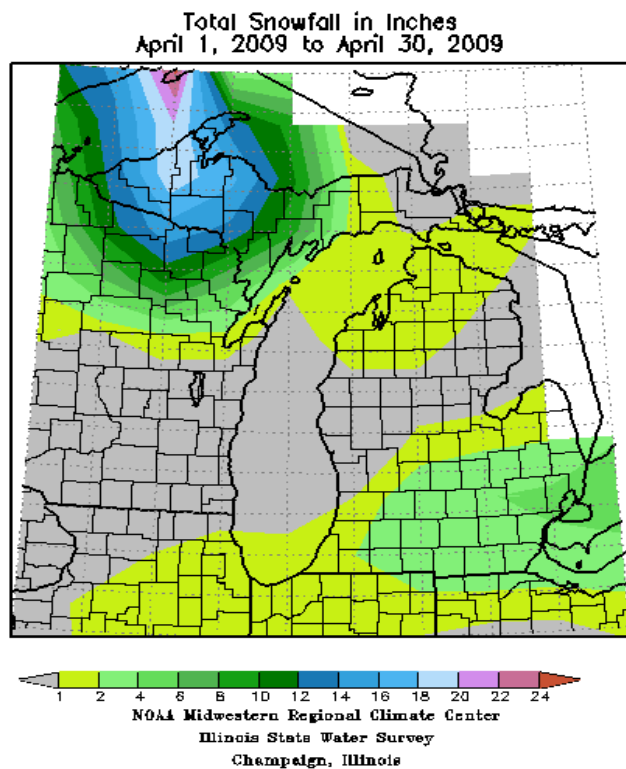
(a) Inches of Total Precipitation



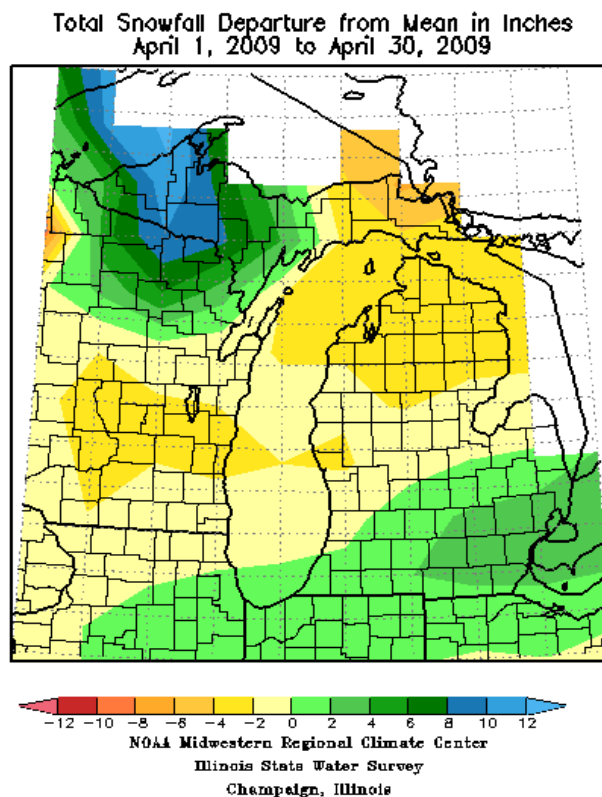
(b) Total Precipitation Departure from Mean

FIG. 8. (a) Total precipitation in inches for April 2009, and (b) Total precipitation departure from the mean.

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(a) Snowfall



(b) Snowfall departure from mean

FIG.9. (a) Snowfall in inches for April 2009, and (b) departure from the mean.

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Highlights of the month

5th – 6th

A strong late season winter storm brought significant snow to far Southern Lower Michigan. The intensifying low pressure system moved from near Indianapolis, Indiana to near Erie, Pennsylvania.

Light rain showers developed across portions of Lower Michigan Sunday afternoon well in advance of the low pressure system. As the system continued to gain strength and pass south and southeast of Lower Michigan, a band of moderate to heavy rain moved into far Southern Michigan early Sunday evening. The precipitation quickly became mixed with sleet and snow, before changing over to mainly heavy wet snow during the mid to late evening hours Sunday.

The heaviest snow fell from just southeast of Kalamazoo (near Vicksburg) east northeast to Battle Creek, Marshall, Eaton Rapids and Jackson. Approximately five to seven inches of snow was reported across that area.

The snow across far Southern Lower Michigan was heavy enough to create treacherous road conditions, resulting in significant impacts to travel and the Monday morning commute. In Eaton County alone, 27 vehicles slid into a ditch, and at least 10 accidents resulted in property damage. One fatal accident in Eaton County also was reported. The Jackson county sheriff's department reported 34 property damage accidents and 2 accidents with injuries. Ingham County estimated 15 accidents occurred during the morning commute.

The combination of the heavy wet snow and increasing wind speeds Monday morning resulted in some downed trees, branches, and power lines. Across parts of Southwestern Lower Michigan, approximately 20,000 customers were left without power.

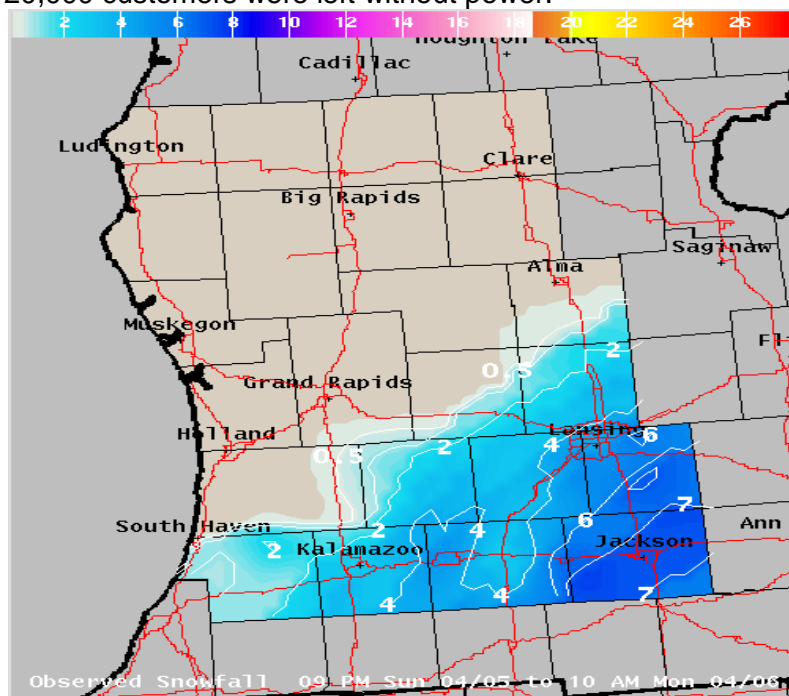


FIG. 10. Storm total snowfall ending 10 a.m. Monday April 6th.

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16th

A wildfire occurred during the afternoon hours in Northern Kent County. The wildfire occurred at around 2:30 pm in Nelson Township between Sand Lake and Cedar Springs, and ended up consuming a house and an unknown number of vehicles.

25th

Heavy rain and severe thunderstorms developed. In Grand Rapids, 1.40 inches of rain was recorded, which broke the previous record of 1.02 inches set on April 25th, 1950. Some locations reported three to four inches of rain from the 25th through the 26th from Allegan and Holland east to Comstock Park and Alma. This resulted in some flooding of urban areas as well as streams and rivers.

Several severe thunderstorms developed on the 25th, causing many reports of wind damage. Emergency management reported that numerous trees and power lines were blown down in the town of Albion. Calhoun County officials reported that numerous trees were blown down in Marshall and throughout the county. A 61 mph thunderstorm wind gust was measured by wind equipment in Jackson, and a trained spotter reported that numerous trees were blown down two miles west southwest of Tompkins in Jackson County.

Last week of April

Several rounds of moderate to heavy rain occurred from April 25th through the 27th, which led to flooding of numerous rivers and streams. Additional moderate to heavy rain fell on the 28th, with more rain on the 30th, exacerbating already ongoing river flooding and hydrological issues due to antecedent saturated ground conditions.